IPm834-C
N S1.2: P96/4/978
COMPLETED
ORIGINAL

PUBLIC
UNDERSTANDING
OF
SCIENCE

SUMMARY OF GRANTS
AND ACTIVITIES
FY 1978

29

OFFICE OF SCIENCE AND SOCIETY

The National Science Board [illegible] and Society [illegible] to the [illegible] between the scientific and technical [illegible] The general purpose of the [illegible] this relationship and to help [illegible] with science and technology.

In pursuing this purpose [illegible] questions as:

- How can the work of [illegible]
- How [illegible]
- How [illegible]

[illegible]

A

SUMMARY OF GRANTS AND ACTIVITIES
PUBLIC UNDERSTANDING OF SCIENCE PROGRAM
NATIONAL SCIENCE FOUNDATION
FY 1978

Budget	$ 2,417,750
Preliminary Proposals	200
Formal Proposals	49
Awards	26
Funding*	
Broadcasting	56.3%
Museums	28.5%
Journalism	12.0%
Lectures & Other	3.2%

---

* In order to provide a representative picture of PUOS funding, support percentages include future commitments as well as the immediate FY '78 grant, and the funding for a children's television program has not been included since it involves special funding and the size of this single project would mask the general funding pattern.

FY 1978 Activities

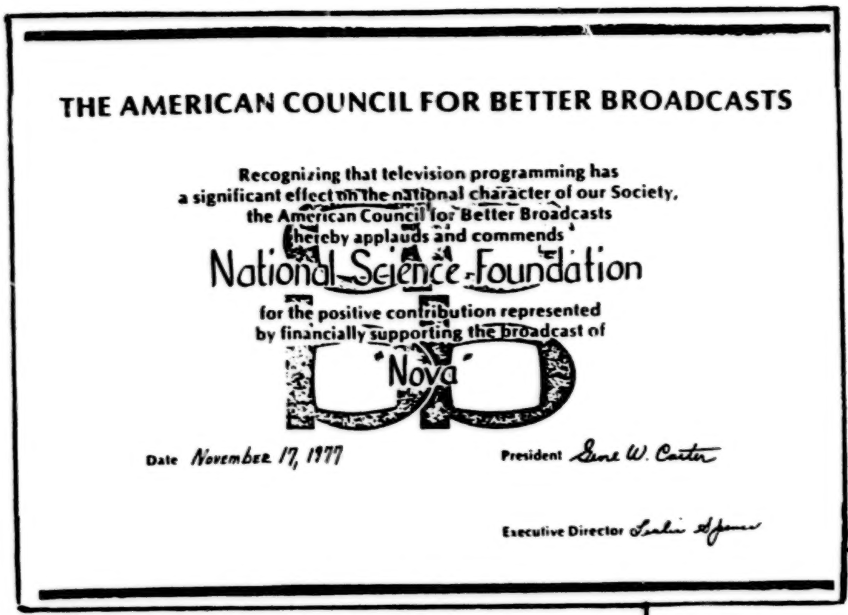
During the past year the Public Understanding of Science Program has continued efforts to broaden the size and diversity of its audiences, bracketing a spectrum of age, interest, motivation and level of understanding. In doing so, we have attempted to maintain a balance between different communication media, embracing a range of content that emphasizes the relevance of science while portraying its activities, methods and excitement. Overall, it has been our goal to help develop an improved environment for informal education ... where persons of widely differing backgrounds and motives will be encouraged to learn more about the activities, the methods, the principles, and the significance of science.

There is, of course, no single "public," and individual projects are directed toward the needs of substantial but distinct audiences. Some of these audiences are highly motivated and deeply interested in science, but far larger numbers have little science background, interest or awareness of the significance of science in their lives. Such audiences are difficult to reach and a principal goal of PUOS is to support a balance of projects which reach both this broad general public and the motivated, science-literate population.

Broadcasting

The public television program "NOVA" continues to reach an audience of roughly 4 - 6 million viewers each week with programs that range from nuclear safety to the origin of the universe. During 1978 NOVA received a special citation from the American Council for Better Broadcasting.

But many science related policy issues are of regional rather than national interest and such TV programs are more appropriate if produced and aired for a regional audience. To explore this potential, the program "Synthesis" is being produced by a western regional consortium under the leadership of KPBS-TV, San Diego. Programs of regional interest, such as the impact of Alaskan oil shipments, are developed and produced cooperatively for airing over the Pacific/Mountain public television network. Response to the quarterly series has been excellent and programs are generally viewed by about 2 percent of the potential audience.



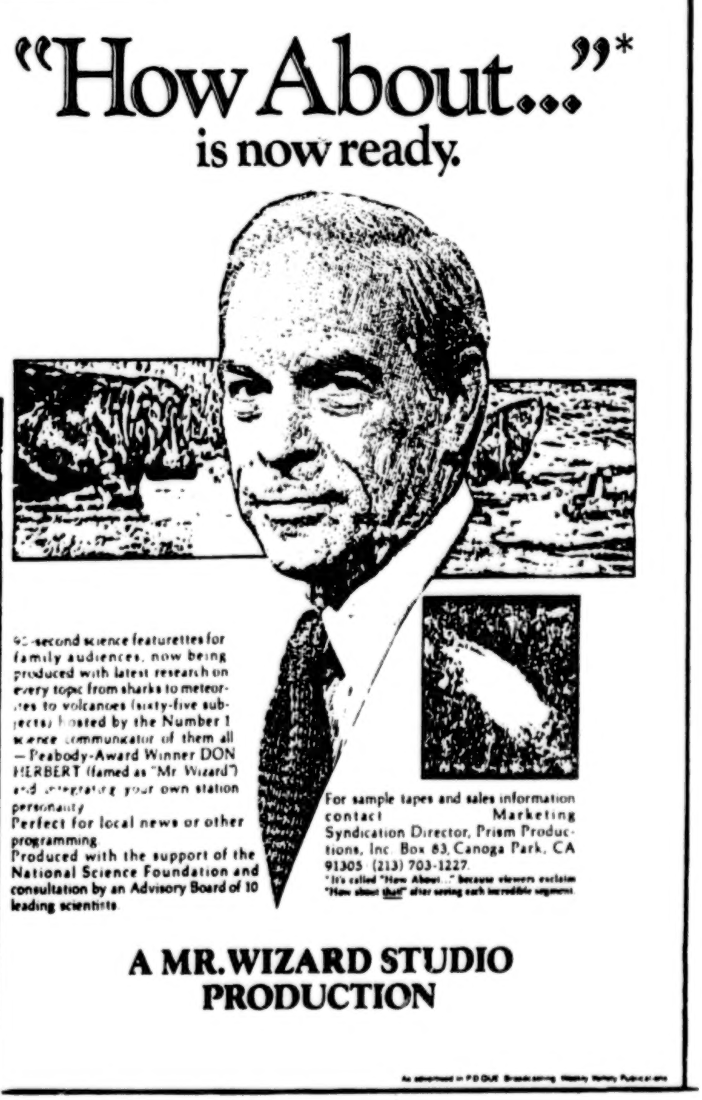
THE AMERICAN COUNCIL FOR BETTER BROADCASTS

Recognizing that television programming has
a significant effect on the national character of our Society,
the American Council for Better Broadcasts
hereby applauds and commends
National Science Foundation
for the positive contribution represented
by financially supporting the broadcast of
"Nova"

Date *November 17, 1977*   President *Gene W. Carter*

Executive Director

ROFILMED FROM
BEST AVAILABLE COPY



"How About..."*

is now ready.

9?-second science featurettes for family audiences, now being produced with latest research on every topic from sharks to meteorites to volcanoes (sixty-five subjects) hosted by the Number 1 science communicator of them all — Peabody-Award Winner DON HERBERT (famed as "Mr. Wizard") and integrating your own station personality.

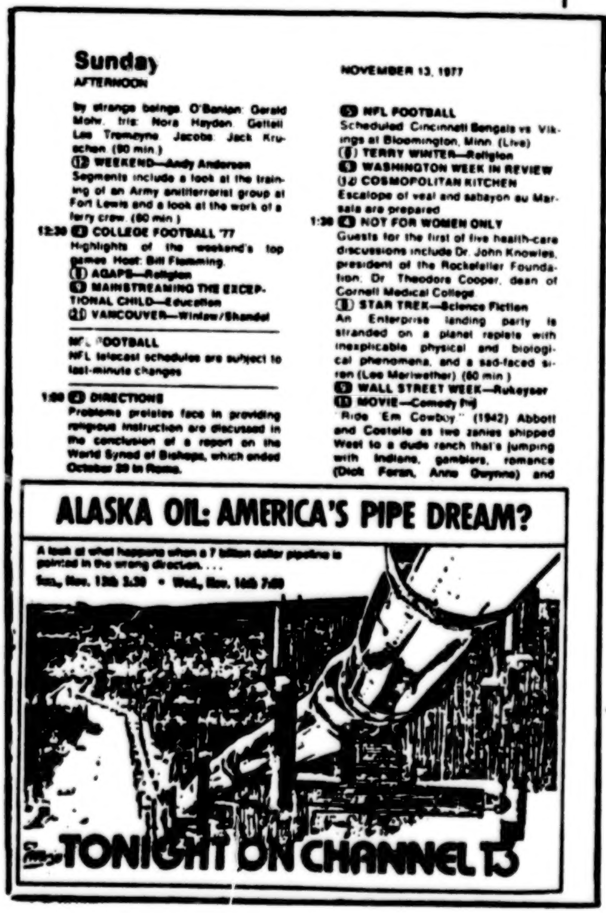
Perfect for local news or other programming.

Produced with the support of the National Science Foundation and consultation by an Advisory Board of 10 leading scientists.

For sample tapes and sales information contact Marketing Syndication Director, Prism Productions, Inc. Box 83, Canoga Park, CA 91305 (213) 703-1227.

* It's called "How About..." because viewers exclaim "How about *that*!" after seeing each incredible segment.

A MR. WIZARD STUDIO PRODUCTION



Sunday
AFTERNOON

NOVEMBER 13, 1977

by strange beings. O'Banion: Gerald Mohr. Iris: Nora Hayden. Gettell: Lee Tremayne. Jacobs: Jack Kruschen. (90 min.)

⑫ **WEEKEND—Andy Anderson**
Segments include a look at the training of an Army antiterrorist group at Fort Lewis and a look at the work of a ferry crew. (60 min.)

12:30 [illegible] **COLLEGE FOOTBALL '77**
Highlights of the weekend's top games. Host: Bill Flemming.

⑧ **AGAPE—Religion**

⑨ **MAINSTREAMING THE EXCEPTIONAL CHILD—Education**

㉑ **VANCOUVER—Winlaw/Shandel**

NFL FOOTBALL
NFL telecast schedules are subject to last-minute changes.

1:00 [illegible] **DIRECTIONS**
Problems prelates face in providing religious instruction are discussed in the conclusion of a report on the World Synod of Bishops, which ended October 29 in Rome.

⑤ **NFL FOOTBALL**
Scheduled: Cincinnati Bengals vs. Vikings at Bloomington, Minn. (Live)

⑧ **TERRY WINTER—Religion**

⑨ **WASHINGTON WEEK IN REVIEW**

⑫ **COSMOPOLITAN KITCHEN**
Escalope of veal and sabayon au Marsala are prepared.

1:30 ④ **NOT FOR WOMEN ONLY**
Guests for the first of five health-care discussions include Dr. John Knowles, president of the Rockefeller Foundation; Dr. Theodore Cooper, dean of Cornell Medical College.

⑪ **STAR TREK—Science Fiction**
An Enterprise landing party is stranded on a planet replete with inexplicable physical and biological phenomena, and a sad-faced siren (Lee Meriwether). (60 min.)

⑨ **WALL STREET WEEK—Rukeyser**

⑪ **MOVIE—Comedy (hi)**
"Ride 'Em Cowboy" (1942) Abbott and Costello as two zanies shipped West to a dude ranch that's jumping with Indians, gamblers, romance (Dick Foran, Anne Gwynne) and

ALASKA OIL: AMERICA'S PIPE DREAM?

A look at what happens when a 7 billion dollar pipeline is pointed in the wrong direction. . . .
Sun., Nov. 13th 3:30 • Wed., Nov. 16th 7:00

TONIGHT ON CHANNEL 13

* * *

In contrast to such programs for viewers who are particularly interested and attracted to science, Prism Productions is exploring the potential use of commercial television to reach less motivated viewers and different age groups. An earlier series of brief (30 sec.) vignettes, "Closeups," was aired by NBC between Saturday morning children's cartoons. During the past year the series has been used by several major ABC stations as part of their local news programs and was then distributed by the ABC direct-electronic-feed to all of their local affiliates. This is the first time that ABC has used externally-produced materials for this service.

Prism is now producing a series of longer (2 minute) segments discussing topics like the identification of oil spills, radioisotope dating and ecological research. These will be used to further explore the potential of science materials in local news broadcasts.

* * *

During the past year, "Science Scene," produced by the Science Program Group, became PUOS' first radio project. Like the "Synthesis" series, this program is oriented particularly to the discussion of science-related policy issues like earthquake forecasting, genetic research and energy resources. Although distribution of the weekly series has barely begun, it is already being aired on 76 stations in 27 states. More than 50% of these are commercial radio stations and priority has been given to those with the most promising air times in the largest markets.

* * *

Many public understanding of science problems can be related to a general lack of science "literacy." Publishers, editors and broadcasters generally believe that despite our growing educational level, most of their audience is poorly equipped to read about or listen to materials that discuss topics like genetic research and nuclear safety. This assessment is probably correct and the motivation to learn (or not learn) more about science is probably related directly to one's early experience with the ideas and meaning of science.

Without a comfortable familiarity with the basic concepts and methods of science, one is likely to always find science "dull" and "too difficult." An early aversion to science is likely to become a permanent handicap to understanding this major aspect of our society. So investment in children's early familiarity with the joy and excitement and principles of science can ultimately be a vital contribution to the next generation's ability to learn about and deal with new developments.

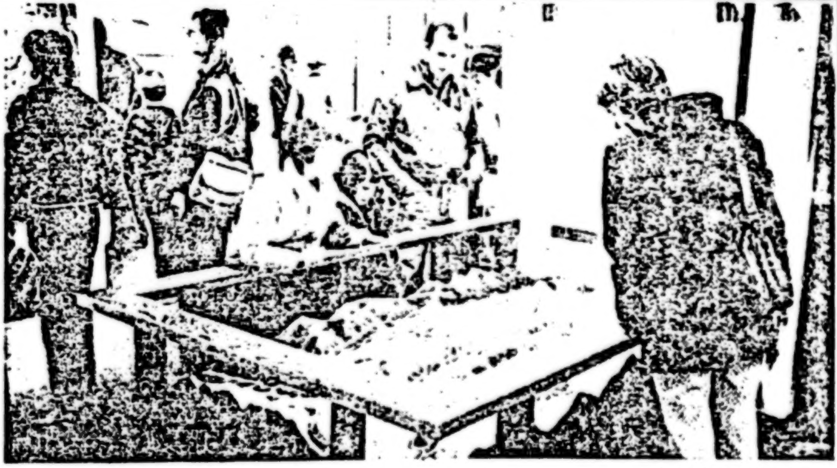
MICROFILMED FROM
BEST AVAILABLE COPY

Mount Baker on display in Seattle

Mount Baker, which had a lively past, continues to steam, and a new exhibit at the Pacific Science Center in Seattle attempts to explain exactly what is going on. The exhibit is called "Volcano Watch."

Scenic photographs are included in the exhibit, the largest being a 12-by-22-foot picture of Mount Baker itself. Sound effects, film shows and a needle tracing the earth's movement are part of the exhibit.

The needle is connected to a sensor on Mount Baker's slopes. Signals are radioed from the mountain to a receiver near Concrete, then relayed by telephone lines to the University of Washington and the Science Center.



(Herald photo by Don Aderson)

This scale model of Mount Baker comes complete with lights which show where mudflows could occur should the mountain erupt. The display is part of an exhibit called "Volcano Watch" at the Pacific Science Cener in Seattle.

With this intent, special supplemental funds have been allocated to PUOS to support a new daily children's science television program directed to 8-12 year olds and their parents. The program, which is being developed by Children's Television Workshop with the advice of a large group of eminent scientists and educators, will treat all aspects of science and portray basic concepts as well as the excitement and joy of discovery. The half hour daily programs with school and community coordination are scheduled to begin in the fall of 1979 with support from NSF, the U.S. Office of Education, United Technologies Corp., Children's Television Workshop and the Corporation for Public Broadcasting.

Museums

PUOS provided the initial funds to establish the Association of Science and Technology Centers and last year made a five-year grant to further develop its services for the science museum community. The organization provides the first communication network where science centers can trade experience and develop projects of mutual interest. ASTC's traveling exhibit service circulated fifteen exhibits and reached an audience of 30 million persons during the past year. The association also conducted seven workshops with average attendance of about a hundred museum professionals, discussing topics ranging from science interpretation to museum management and exhibits for the handicapped.

* * *

In order to increase the impact of PUOS' limited resources and serve a wide range of museums in size and type, we have encouraged proposals that will both develop an exhibit and also provide duplicates for other museums. In this manner, the Center of Science and Industry of Columbus, Ohio has produced ten copies of their hands-on chemistry exhibit. These copies have been placed in other science centers which agreed to provide part of the construction cost and all of the subsequent operating and maintenance costs. The ten copies were produced for roughly the same total cost as the development of the single original exhibit.

Two more such grants have been made to develop and duplicate exhibits about computers and marine science. In this way we hope to combine the development abilities of larger museums with the diverse audiences of local science centers.

MICROFILMED FROM
BEST AVAILABLE COPY

Scientific photographer aids in search for cancer cures

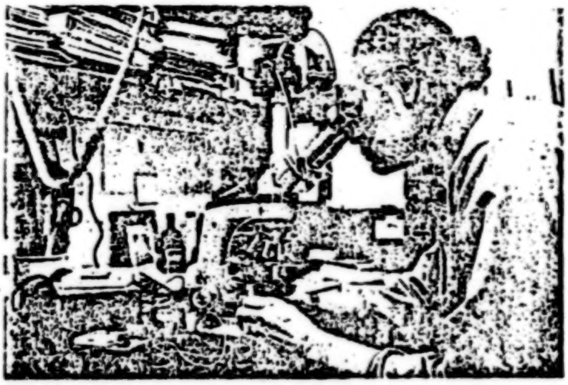


PHOTO SEARCH: Ray Simons works with laboratory equipment designed to photograph minute organisms such as slime molds-[Myxomycetes]. Simons has identified more than 70 species of these organism which are important in cancer research.

By BOB WAYMER

ATLANTA--

Ray Simons, a nature wild life, scientific photographer for Fernbank Science in Atlanta, Ga., has assisted in identifying some 70 species of slime mods (fungus) in the Atlanta area and from other localities in the state of Georgia.

Slime mods have been generally considered as a form of fungi, but to the zoologist are also considered as a form of protozoa. Some scientist-Botanist-classify the slime mold as a plant while the scientists who primarily study zoology see them as animals. In its life cycle the slime mold shows characteristics of both forms of life, plant and animal. Thus the lowly slime mold is strange and fascinating small organism.

According to Simons, many scientists consider the slime mold the key to findind a cure to cancer. "Cancer researchers, for example, believe that if they could completely understand the triggering and differentiatation process in the slime mold, they would be a long way toward understanding why and how a normal body cell suddenly becomes a destroyer of the cells surrounding it, thus a cancer," he said.

Simons, 55, is unique in his profession. He studied science at Morehouse College in Atlanta and at Andrews University in Michigan. He has studied commercial art and has contributed articles and photographs to more than 50 magazines, newspapers and books.

"In my work," Simon said, "I see a lot of things people don't see...I record them in photographs so that others can see them and learn from nature."

For the last ten years, Simons has been employed as a photographer, at, Fernbank Science Center, a unit of the Dekalb County Public School System in the Metro Atlanta Area.

He has had an interest in photography for some 35 years which started as a hobby when he was a teenager in high school.

GEORGE P. STEWART PRINTING CO., Inc
PUBLISHERS

The
INDIANAPOLIS
Indiana's [illegible] Weekly
RECORDER

2901 N. Tacoma Avenue
Indianapolis, Indiana 46218

Journalism

Few journalists have the scientific background needed to evaluate the technical discussions and scientific debates related to contemporary issues. Few scientists have any working familiarity with the activities and problems of journalists. To help bridge this gap, the American Association for the Advancement of Science administers a Mass Media Intern Program which offers eighteen young scientists a short experience as science journalists, giving them familiarity with the field and an opportunity to consider this career option. At the same time, the program acts as a catalyst, increasing the science reporting of cooperating publications and broadcast stations while demonstrating the value of a science background to their editors and producers.

Because of their background and maturity most interns are given substantial independence and have generated an impressive variety of materials ranging from short articles to radio and TV scripts and wire service releases.

* * *

As we have noted, substantial portions of the public have little personal interest in science and technology and see little of its relevance to their own lives. One approach to this problem might be through specialized materials which focus on the interests of smaller and more sharply delineated publics. In the same manner that the "Synthesis" television program is designed to respond to the interests of a western regional audience, Clark College has developed an experimental science column which is being distributed to black newspapers. The articles are written by black journalists in cooperation with the Fernbank Science Center, and addressed to the interests of black readers. They are distributed as camera-ready copy complete with half-tone photos so that they may be edited or cut-and-pasted by the editor. Although the project has barely begun, the column is being printed by over fifty black newspapers throughout the country. Feedback from editors has been encouraging and has stressed an interest in more pictures and material about the activities of black scientists.

Lectures, Meetings and Other Activities

Most face-to-face communication is relatively costly and does not rank high in PUOS priorities unless the activity promises either to reach a special audience or to generate a substantial subsequent impact through secondary means such as newspaper and broadcast coverage. The generation of such a "multiplier" effect requires both skill and an intimate familiarity with the needs of mass media, but several projects have demonstrated the potential of a well-planned and administered program of this kind.

Iron and Uranium

San Francisco Chronicle 5
★ Tues., July 19, 1977

Rich Clues From Fossils

An expert on the origin of life said here yesterday that recent discoveries of fossils billions of years old may have practical applications in the search for valuable minerals including iron, gold and uranium.

J. William Schopf, a UCLA paleobiologist and at 35 a recognized leader in charting the earliest evolution of single-cell life forms, said the ancient fossils provide a unique way to date the rocks in which they are found.

Until only about 15 years ago, he said, many geologists believed there were no fossils older than about 500 million years.

Today, rocks with microscopic fossils more than two billion and perhaps as much as three billion years old are known. More than three dozen such deposits have been found, and Schopf has been responsible for discovering 20 of them in India, the USSR, Africa, Australia and North America.

Schopf is in the field because he wants to understand the evolution of the first primitive life forms, but he said the fossilized cells provide a convenient way to date the age of sedimentary rock.

Analysis of microscopic cells preserved in glassy, silicon-rich rock allows the age to be estimated within 100 million to 200 million years, up to a maximum of about 2.4 billion years.

Knowing the age of ancient sediments is a great help to geologists looking for minerals. Iron and other ores are often found mainly in rock of a narrow age range. One type of ore containing both gold and uranium, for instance, is usually found in sediments more than 2.3 billion years.

While Schopf and his co-workers try to gather a more complete list of primitive life forms that existed at various times before the development of multi-celled plants and animals some 600 million years ago, he is also trying to push back the date of the oldest known fossil.

Currently, the record is apparently three billion years, held by some microscopic spheres embedded in rock formations from southern Africa, but Schopf is confident that fossils will show the "dawn of life" to have occurred several hundred million years before that.

Schopf was interviewed before a lecture on the origin of life in the sea last night at the Palace of Fine Arts. He was the second of nine speakers in a free weekly public series, "Voyages into Ocean Space." The series is held each Monday through September 5 at 7 p.m. and 9 p.m. Series sponsors include the National Science Foundation, the Oceanic Society, City College of San Francisco, San Francisco State University and the San Francisco Foundation.

MICROFILMED FROM
BEST AVAILABLE COPY

For example, Science and Human Values, Inc. presents an annual science lecture series in some eight western cities. Each week a new speaker follows a circuit of the cities so that each city receives a series of eminent speakers discussing an important area of contemporary science. In each city the speaker not only lectures but meets with local business and government leaders, appears at press conferences, and participates in radio and TV interviews. At the same time, the host institution for each city stages an array of related courses, exhibits and similar activities which both attract interest and extend the impact of the series. Although the speakers find this an exhausting schedule, they are enthusiastic about the large and highly motivated audiences, and the extensive coverage by press and broadcasting.

In 1977 over 50,000 persons attended the lecture series about ocean research and development, and two cities found it necessary to schedule the lectures twice during the evening in order to accommodate the crowds. Equally important, sixty hours of broadcast time were logged and newspaper articles based upon the lectures totalled 2200 column inches.

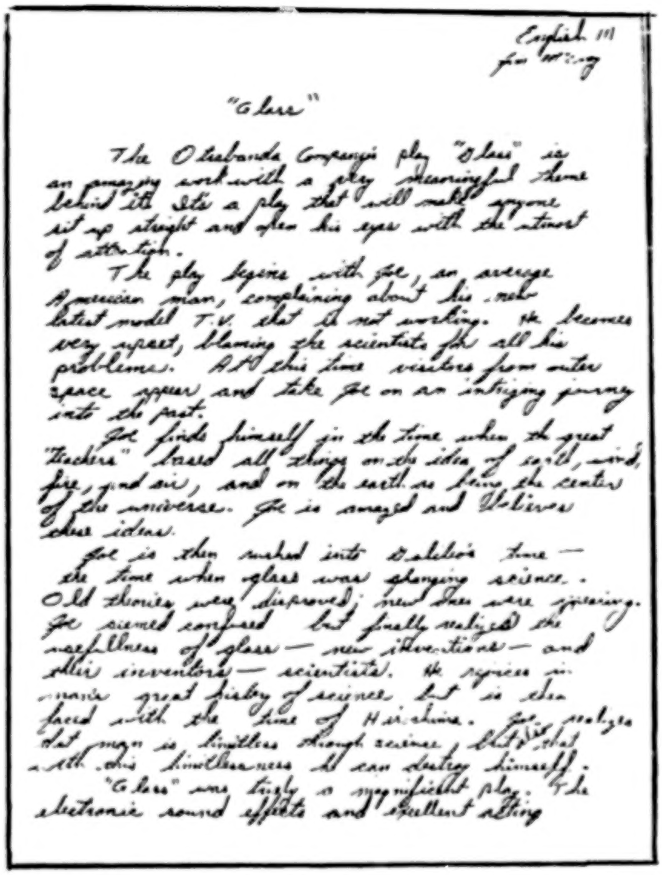
In 1978 the series addressed a more difficult and less glamorous topic, energy. Although the audience for this more sober topic proved significantly smaller, the secondary impact through newspaper, radio, television and luncheon meetings increased strikingly. Newspapers in a number of major cities are running half-page summaries of each lecture (written by the project staff) opposite the editorial page. A readership survey showed that 14% of the Honolulu Star-Bulletin readers had read and could discuss the content of these articles. This is roughly double the readership of editorials.

At the same time, broadcast interviews with the lecturers have already reached several million listeners. We feel that this is a very promising format. While the lectures themselves reach a limited but highly motivated direct audience, the secondary audience reached through newspapers and broadcasting undoubtedly reaches a much larger and less motivated segment of the public.

* * *

In a similar vein, the Resident Associates program of the Smithsonian Institution conducts an annual series of lecture debates. These feature outstanding scientists who discuss current science policy issues. The series is always oversubscribed, but its much larger impact is based upon broadcasts by the 50 stations which air Radio Smithsonian broadcasts, as well as broadcasts by National Public Radio, Voice of America and Atlantic Dateline. In addition, the series is covered by representatives of various publications and has contributed to a number of magazine articles as well as a full-page article in the New York Times. Summaries are also published in "Research Reports," which is circulated to some 7000 scientists and administrators.

MICROFILMED FROM
BEST AVAILABLE COPY



English 111
[illegible]

"Glass"

The Otrabanda Company's play "Glass" is an amazing work with a very meaningful theme behind it. It's a play that will make anyone sit up straight and open his eyes with the utmost of attention.

The play begins with Joe, an average American man, complaining about his new latest model T.V. that is not working. He becomes very upset, blaming the scientists for all his problems. At this time visitors from outer space appear and take Joe on an intriguing journey into the past.

Joe finds himself in the time when the great "teachers" based all things on the idea of earth, wind, fire, and air, and on the earth as being the center of the universe. Joe is amazed and believes these ideas.

Joe is then rushed into Galileo's time — the time when glass was changing science. Old theories were disproved; new ideas were appearing. Joe seemed confused but finally realized the usefulness of glass — new inventions — and their inventors — scientists. He rejoices in man's great history of science but is then faced with the time of Hiroshima. Joe realizes that man is limitless through science, but also that with this limitlessness he can destroy himself.

"Glass" was truly a magnificent play. The electronic sound effects and excellent acting

Impacts of science. "Glass," a touring play produced by New Orleans' Otrabanda Company, is a vehicle for illustrating the processes of scientific discovery and the consequences for society. Performing at the Exploratorium in San Francisco, "Joe," the Everyman figure, curses whatever scientific forces are responsible for his faulty TV set; later, during a trip through time, he's aghast at what's happening to him when at the mercy of two medieval physicians. (Photos by Susan Schwartzenberg)

* * *

In 1977 PUOS provided funds to the Otrabanda theatre group to develop a presentation about the historical impact of transparent glass on both science and society. Essentially, this is a play about materials development and the impact of new technology, but couched in a style and format that are stimulating to persons who would otherwise have no interest in the subject. Much of the audience for this group has never before seen live theatre and probably had little interest in the relevance and impact of science. Reviews have been highly complimentary and have especially noted the unusual combination of entertainment and content.

During the past year, the audience and impact have been extended through a special tour of fourteen science centers. Arranged as part of the ASTC traveling exhibit program, these performances have both added to the audience for "Glass" and helped to explore a new way to increase the attendance and interest in science centers.

The balance of activities within PUOS.

Thus, PUOS continues to address the need to reach larger and more diverse audiences with limited resources. We attempt to do this by maintaining a difficult balance in several areas. Broadcasting is the dominant American communication medium, capable of reaching very large audiences. In FY '78 56% of PUOS support was dedicated to broadcast projects. While some individual programs were funded, we have placed increasing emphasis on continuing series and consortia that contribute to long-term audience development as well as to the development of science broadcast capabilities. We have also tried to maintain a balance between public and commercial broadcasting since they reach significantly different audiences ... at least in motivation, if not in background and other factors.

But broadcasting is a large-scale, passive, least-common-denominator medium. In contrast to this, science museums provide a more personal, hands-on involvement to an impressively large audience (approximately 36 millon per year), that invests both effort and dedication of time. Furthermore, a large portion of museum attendance is by families who are mutually and directly involved in education-as-entertainment.

Over its lifetime, a well conceived exhibit in a large museum can reach a comparable audience, at a comparable cost, to a public television program. It is not possible to directly compare the effect of these two modes of informal education, but it seems clear that they are complementary in both role and audience, and we have attempted to maintain a balance of support. In FY 1978 about 30% of PUOS support was devoted to museum and science center projects. We have particularly encouraged projects that will benefit a number of museums while reaching a substantial audience.

Journalism is a third major communication channel, which receives comparatively limited support. During the past year, this support has increased significantly (to 12%) but remains limited by PUOS' desire to provide assistance without interference in this important area.

SUMMARY OF GRANTS

FY 1978

Since this summary includes grants which obligate funds from future years, the total is substantially greater than the PUOS budget. For each grant we have listed the title, amount and grantee. In some cases we have also included a summary of the project and other illustrative material. More detailed summaries of all grants are included in the Smithsonian Science Information Exchange. For convenience titles have been grouped in categories with generally similar communication activities.

Information contained in this Summary of Grants has been drawn from PUOS program records and has been reconciled with data contained in the NSF Management Information System.

BROADCASTING

WGBH Educational Foundation John Angier OSS 77-24406	NOVA	3/16/78	'78 $200,000 '79 200,000 '80 200,000

This three-year grant continues partial support of the public television program NOVA. The program continues to draw an audience of four to seven million viewers each week with programs about science, technology and their impact on our lives. This year the series received a special citation from the American Council for Better Broadcasts, adding to NOVA's long list of awards.

Twin City Area Educational TV James W. Cox OSS 77-16759	A Film On Water For World Television	3/20/78	$181,627

The Twin Cities Public Television (KTCA and KTCI) and the United Nations Environmental Programme will produce a one-hour film about the role of water, from both humanistic and scientific perspectives. The presentation will focus on world water problems and the different ways in which communities have found answers to these problems. The film will be shown in the United States by public television and to overseas audiences through United Nations translation and distribution.

Wheelwright Museum Mary L. Grossman OSS 77-16854	"When The Rivers Run Dry": A Film About Water Use In The Southwest	11/25/77	$ 33,000

Water allocation and its effects on resource development pose particularly difficult questions of technology and public interest in the southwest. An understanding of the historical context and ways that water allocation has been viewed by different cultures can help the public to weigh the issues that are now posed by water scarcity and resource development. This project will develop a half hour film about the use of water in the southwest and how it has been affected by changing cultures and technologies.

Prism Productions Inc. Don Herbert OSS 77-16196 A01	An Experimental Series of Science Programs for Commercial Television (Phase 2)	7/13/78	$325,635

This grant continues a 1977 grant to explore the use of syndicated feature news segments for use in local television news programs.

Children's Television Workshop Samuel Y. Gibbon Jr. OSS 78-11780	A Children's Television Series About Science and Technology	9/7/78	'78 $ 770,000 '79 1,180,000 '80 1,750,000

This grant continues a project initiated in FY '77 in a planning study by CTW. Funding includes a special allocation of NSF funds and a $200,000 allocation from the U.S. Office of Education. Additional funds are being provided by CTW, the United Technologies Corporation and the Corporation for Public Broadcasting.

In this project Children's Television Workshop, creators of "Sesame Street" and "Electric Company", will produce a half-hour daily science television program for children of 8-12 years. The series will aim to help children experience the joy of scientific exploration; motivate them to pursue further scientific activities; relate science to social issues; and recognize science and technology as a cooperative human endeavor, open to their participation.

The program will be a variety series organized around weekly themes, incorporating some continuing features (such as an adventure serial) and using animation, live action film, music, comedy and special electronic and film effects. Sixty-five half-hour programs are to be aired daily for thirteen weeks, beginning in the fall of 1979 on the more than 270 stations of public television. Plans call for a late afternoon broadcast, a second airing during school hours and a possible third repeat on weekends. Total funding is $9.6 million, to which CTW will contribute $1.5 million.

San Diego State Univ. Foundation Jeffrey W. Kirsch OSS 77-25287	"Synthesis '78": A Regional Public Television Series on Science Related Policy Issues	2/10/78	$200,300

KPBS-TV, Public Broadcasting in San Diego, will continue to develop the Western Science and Public Policy Communication Center, established in 1977 under an earlier PUOS grant. Five television programs about regional science-related issues will be produced in cooperation with a group of West-coast public television stations and a cadre of scientific advisors. Each program is part of a regional project with special promotional efforts and coordination with non-television activities such as seminars, public debates, workshops, etc. These will be developed in association with community groups and national societies such as Sigma Xi and the American Association for the Advancement of Science. Thus this project continues to provide both improved understanding of contemporary issues and a model for cooperative regional production and distribution efforts.

National Public Radio Joe Neil Gwathmey OSS 78-06921	Development of Science Programs for Public Radio	9/25/78	$ 49,413

Public radio is a growing information medium with a significant potential contribution to the popular understanding of science and its related issues. Although the present impact of individual programs and stations is limited, the aggregate audience is substantial and development of science programming capability can contribute to the goals both of PUOS and the public broadcasting system.

This project will explore means through which public radio can be used nationwide to improve the public's understanding of important concepts and developments in science. National Public Radio, the production and distribution center for 213 public stations in 43 states will develop and test the utility of science materials in differing lengths and formats. Test materials will include regular science segments in existing national news and public affairs programs, longer programs devoted to science issues and documentary treatments of key developments in science.

The project will evaluate how local stations use, schedule and promote these materials, the preferences of station managers, and measures of audience appeal. It is hoped that this project will lead to recommendations for a cooperative system of science program production that will develop a continuing science journalism capability for the public radio system and lead to a significant audience for such programs on public radio.

Aspen Institute for Humanistic Studies Marc U. Porat OSS 77-24818	A Public Television Program on "The Information Society"	9/12/78	'78	$ 41,956
			'79	161,500

There is today a rapid growth of electronic technology affecting the gathering, processing and transfer of information. This new technology is already exerting profound effects on the conduct of business, research and government, and the probable future impact has been referred to as the "Information Society." The Aspen Institute and public television station WQED will produce a documentary series describing this trend and discussing the potential impacts and issues posed by these developments. This grant represents partial support for the program and the balance is sought from corporate underwriting.

The Boy's Town Center for the Study of Youth Development OSS 78-06288	Television News Features on Child Development and Family Life	8/3/78	$ 40,418

The Boy's Town Center for the Study of Youth Development is a research center associated with Boy's Town. On the staff of the Center are social scientists specializing in child development, youth and family life. The Center will produce fifteen television news features of 1-1/2 to 3 minutes in length on these topics. The films will discuss issues and research involving the fields of psychology, education, sociology and pediatrics. They will feature noted scientists and will be distributed for use in local television news programs.

MUSEUMS

Association of Science and Technology Centers Michael Templeton OSS 77-06038 A01	Extension of ASTC Traveling Exhibit Service Activities	5/16/78		$ 33,986

This project supplements the Traveling Exhibit Service activities of ASTC which are funded under a current PUOS grant (OSS 77-06038). The supplementary activities include meetings of an ad hoc committee to formulate policies for the program and circulation of "Glass," a dramatic performance about the history of glass and its impact on science and society. "Glass" was developed with support from PUOS (OSS 76-81555) and the series of museum performances are increasing the play's impact while drawing new audiences to science centers and museums.

Oregon Museum of Science and Industry Garry Breckon OSS 78-17307	Computer Awareness Project	8/25/78	'78 '79	$111,000 121,300

The Oregon Museum of Science and Industry will develop an exhibit to help remove some of the mystery and awe of computers for a lay audience. The exhibit will illustrate the components and organization of a modern digital computer, the state-of-the-art in current technology and the computer's expanding sphere of influence. Modules will incorporate participatory activities, displays and graphics. Interactive terminals will provide some hands-on experience and an illustrated guide book will provide additional information.

The exhibit will be developed and tested at OMSI after which several replicas will be prepared for installation in other science centers.

Canterbury Museum Roger Duff OSS 78-00606	Exhibit Development at the Canterbury Museum Antarctic Center	11/20/77		$ 15,000

Christchurch, New Zealand has been the starting point for most antarctic exploration and research. The Canterbury Museum commemorates these activities and is visited by almost a half million visitors each year. This project will continue development of displays illustrating the concepts of continental drift and auroral behavior. It will also supplement the museum's collection of antarctic films and their uses in the museum's educational program.

Oklahoma Science and Arts Foundation Sherman Kent OSS 78-17088	An Interactive Weather Exhibit at OMNIPLEX	9/1/78		$ 22,901

Since portions of Oklahoma experience the highest average number of windstorms, hailstorms and tornadoes of any place in the Unites States, interest in weather is particularly high. The OMNIPLEX museum includes an exhibit which presents all of the weather instrumentation of a working forecasting station. This project will enlarge the exhibit by adding a tornado simulator which will show the preconditions and formation of tornadoes as well as two interactive components to show how meteorologists analyze weather phenomena. Representative forecasting activities will be dramatized and meteorology students will be trained as explainers to assist visitors to the exhibit.

Smithsonian Institution Walter H. Adey OSS 78-06909	A Living Coral Reef As A Tool For Public Education In Ecology	9/5/78	'78 '80 '81	$118,174 132,900 168,300

Ecological balance is an important aspect of contemporary natural science and its principles are critical to many public issues. However, the complexity of ecosystems makes them very difficult to comprehend, and the scale is usually too large to replicate in a museum environment. An unique exception to this difficulty is a living coral reef ecosystem which marine biologists of the National Museum of Natural History have transferred to a large tank in the museum's laboratory. This living reef, complete with a great variety of associated marine plants and animals, has been maintained for over a year and presents a fascinating and visually exciting example of an entire ecology within a single tank.

This project will transfer the model system to a still larger tank on the main floor of the museum where it will be designed as a working research facility on view to the public, together with films, captions, recordings and a publication describing the ecology and research. Estimated audience for this exhibit will be five million visitors each year. When completed and operational the exhibit will be duplicated and installed in several other major museums. By providing such replicas and an appropriate training program, the Museum of Natural History's subject and exhibit expertise will be shared with other museums and a still larger audience.

Marine Science Consortium James E. Alexander OSS 78-06289	An Exhibit for Public Education In The Ecology of the Offshore Wetlands	9/14/78	$101,620

The range of an ecosystem over both distance and time make it generally difficult to demonstrate the nature of ecological balance and the interdependence of issues related to energy and environment. However, the offshore barrier-island ecosystem provides an excellent example of these relationships, concentrating a great variety of familiar animals, plants and maritime-earth characteristics in an appealing, accessible environment.

This project supports the preparation of displays and materials for an interpretive center dealing with the ecology of the salt marsh barrier island system at Wallops Island, Virginia, by the Marine Science Consortium, a marine teaching and science facility supported by 16 member colleges and universities.

Geological history, salt marsh and sandy beach ecosystems, life histories of dominant plants and animals, and an integrated view of the entire system will be presented using models, specimens and visual aids. Although designed primarily for the 1.25 million visitors to the Assateague-Chincoteague area annually, the center will also serve local schools and communication media. After this initial funding, the Center will be supported by operating funds from the consortium.

JOURNALISM

American Association for the Advancement of Science J. Thomas Ratchford OSS 77-24720	Mass Media Intern Program	3/20/78	'78 '79 '80	$ 73,244 55,400 57,400

This grant continues support of the AAAS Mass Media Intern program. In the program young scientists receive a short experience as science journalists, giving them a familiarity with the field, an opportunity to consider this career option, and at the same time increasing the science reporting of cooperating publications and broadcast stations. Past experience indicates that a significant number of these interns either enter the reporting field or continue to write popular interpretations of science as an adjunct to their science careers.

Clark College Gloria P. Walker OSS 76-81594	An Experimental Science Column for Minority Newspapers	12/14/77	$ 65,200

The reporting of science activities by mass media is largely in terms of the common interests of their large audiences. Perhaps as a consequence, substantial portions of the public have little personal interest in the activities and impact of science and technology, and see little relevance to their own lives. One approach to this problem might be through specialized publications which address the more focussed interests of smaller and more delineated portions of the population. This project will explore the feasibility and acceptance of a science column written especially for the interests of one such publishing group.

Several hundred "black" U. S. newspapers respond to the interests of a large minority population. This project distributes a science column developed specifically for these newspapers. If the column is well received and widely distributed it can serve as a model for communication with other special-interest audiences. The articles are prepared by black journalists at the Clark College Mass Communication Department in cooperation with staff of the Fernbank Science Center about topics chosen on the basis of their interest to black readers. Text and pictures are distributed as "camera-ready copy." At this time over fifty newspapers throughout the country are publishing the column.

American Psychiatric Association Robert L. Robinson OSS 77-24274	Symposium for Media Writers: Research Briefings on Mental Health	3/30/78	$ 37,600

The American Psychiatric Association will conduct a 2-day symposium for national media writers, at which prominent research scientists in the mental health field will present current findings and advances in knowledge for treating the mentally ill and understanding human behavior. The symposium will then be followed with a series of regional half-day briefings for local press.

Council for the Advancement of Science Writing William J. Cromie OSS 78-12774	New Horizons In Science: Briefings for Science Journalists	9/ 7/78	$ 41,554

This project provides three year support for the annual briefings for journalists, "New Horizons In Science." At these meetings science journalists and researchers discuss new scientific discoveries which are likely to have an impact on society and which have not generally been reported in the press. Some 15 to 18 scientists discuss new developments in their fields and respond to questions from the journalists.

The meetings are designed to provide maximum formal and informal contact between scientists and journalists as a way to improve communication between scientists and non-scientists, to increase the knowledge of professional science journalists, and to increase the quality and amount of science reporting in the popular media.

The University of Georgia Robert C. Anderson OSS 78-06012	Workshop for University Science Writers	6/28/78	$ 8,100

The University of Georgia will hold a 2-1/2 day workshop for some 100 public information officers on the staffs of universities in a fourteen state area served by the Southern Regional Education Board. The purpose of the workshop is to improve the science communication skills of public information officers who are often assigned to science topics but who typically are journalists with little background in science reporting.

American Enterprise Institute Heather David OSS 77-26368	A Science Issue Communications Planning Workshop	11/14/77	$ 9,600

This project assembled a group of publishers, editors, reporters and scientists to examine the potential for a science background information service for journalists.

LECTURES, MEETINGS AND OTHER

American Association of Community and Junior Colleges Roger Yarrington OSS 78-07675	Workshop On Community Science Forums Sponsored by Community Colleges	4/21/78	$ 9,960

This workshop was jointly funded by PUOS, the Science for Citizens program and the Ethics and Values in Science and Technology program. It explored ways that community forums can be used for citizen education.

University of Colorado at Colorado Springs Robert P. Larkin OSS 78-06684	Science and the Elderly: An Informal Instructional Program on Energy and the Environment	6/29/78	$ 43,040

The University of Colorado will develop for local senior citizens a program of informal education concerning energy development and its environmental implications. The project will capitalize on the knowledge and vitality of the many retired scientists in the area as presentors and directors of instructional activities. The program will include workshops, seminars, disucessions, demonstrations and field trips to research labs, energy industries and other technical facilities.

American Institute of Physics Joan N. Warnow OSS 78-23778	An Audio-visual Catalog for the Einstein Centennial	9/6/78	$ 4,700

In an earlier project, the American Institute of Physics established a library of pictorial materials related to the history of modern physics. Since 1979 will be the centennial of Einstein's birth, there is a substantial increase in requests for related materials. This project will develop a special catalog of such material in a format which will be helpful to potential users.

Smithsonian Institution David Challinor OSS 78-18100	Key Issues In Science Today	8/31/78	$ 35,169

This project continues a series of lecture debates about science issues related to contemporary public policy. The series is presented by the Resident Associates Program and past series have always been over-subscribed. Topics for the debates are identified by an advisory panel of experts from the Smithsonian, the National Academy of Science, Department of State and Agency for International Development. The sessions reach a large secondary audience through broadcasts by Radio Smithsonian, National Public Radio, and Voice of America as well as through articles in journals and magazines such as Time and the New York Times, as well as Research Reports, a bi-monthly Smithsonian publication, and the Smithsonian Magazine.

90%